

AbstractApparatus for simulating the deformation of materials,  
notably of soft body tissues

The invention relates to the simulation of the deformation of materials, notably of soft body tissues. An apparatus comprises a memory zone (MEM, NT) storing data as to the position of an object, recorded at the vertices of a grid pattern, and data for force to be exerted on the object. A computer ( $\mu$ P, MT) evaluates new positions of the vertices, as a function of a force exerted globally and mechanical parameters of the material. According to the invention, this computer comprises a module for calculating, for each mesh, a deviation between the current length of an edge and its previous length, and the force data at each vertex of the mesh. Another module calculates, for each vertex, new positional data relating to this vertex as a function of the forces exerted thereon and its previous position.

(Figure 1)